What is claimed is:

1. In a computer-operated system for programming a manufacturing system, wherein a version of a program is downloaded to the manufacturing

5   system and is associated with a version designator, a method for managing revisions to versions of the program, the method comprising the steps of:

running the program on the manufacturing system; and

10   if the program, when run on the manufacturing system, performs according to a preselected criterion, revising the version designator for the program.

2. The method according to claim 1, wherein the version designator comprises a version label, version identifier, and a status identifier.

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3. The method according to claim 2, wherein the version identifier comprises a top-level version identifier and a lower-level version identifier.

4. The method according to claim 1, wherein the version identifier

20   comprises a number and the step of designating a revised version designator for the program comprises the step of incrementing the version identifier.

5. The method according to claim 2, wherein the status identifier comprises a validation indicator.

6. The method according to claim 5, wherein the manufacturing system comprises at least one line, the preselected criterion comprises a check whether the program runs satisfactorily on the line, and wherein the step of designating a revised status identifier for the program comprises activating the validation indicator.

7. The method according to claim 6, wherein the validation indicator is checked as a condition to running the program on the line without manual intervention.

8. The method according to claim 2, wherein the status identifier comprises a release indicator.

9. The method according to claim 8, wherein the manufacturing system comprises a plurality of lines, the preselected criterion comprises a determination that the program runs satisfactorily on the lines, and the release indicator identifies the program as released for use on the plurality of lines.

10. The method according to claim 8, wherein the release indicator is checked as a condition to running the program on any lines of the manufacturing system without manual intervention.

11. The method according to claim 1, wherein the manufacturing system comprises an electronics assembly system.

12. A computer data structure for use in identifying programs for computer-controlled manufacturing systems, wherein the programs comprise subsets organized with respect to one another in a hierarchical fashion, the subsets comprising a top-level subset and a plurality of lower-level subsets related hierarchically to the top-level subsets and to each other, the data structure comprising:

a first portion for indicating a revision to the top-level subset of a program; and

a second portion for indicating a revision to any of the lower-level subsets of the program.

13. The computer data structure according to claim 12, wherein either of the first and second portions comprise a numeral that is incremented to identify the revision.

14. The computer data structure according to claim 12, wherein the first and second portions are positioned adjacent one another.

15. The computer data structure according to claim 13, wherein the first and second portions are positioned on either side of a decimal point.

16. A method for completing a data structure for use in identifying

5 programs for computer-controlled manufacturing systems, wherein the programs comprise subsets organized with respect to one another in a hierarchical fashion, the subsets comprising a top-level subset and a plurality of lower-level subsets related hierarchically to the top-level subsets and to each other, the method comprising the steps of:

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in a first portion for indicating a revision to the top-level subset of a program, inserting a first symbol indicating that such a revision has been made; and

in a second portion for indicating a revision to any of the plurality of lower-

15 level subsets of the program, inserting a second symbol indicating that such a revision has been made.

17. The method according to claim 16, wherein the first portion comprises an identifier for the top-level subset, and the second portion comprises an

20 identifier for the lower-level subset.

18. The method according to claim 16, wherein the top-level subset comprises a main object.

19. The method according to claim 18, wherein the main object comprises a representation of a circuit board.

20. The method according to claim 18, wherein the lower-level subsets comprise sub-objects relative to the main object.

21. The method according to claim 20, wherein the main object comprises a representation of a circuit board and the sub-objects comprise representations of components to be place on the circuit board.

22. A computer-implemented method for managing revisions to a program used in the control of a manufacturing system, the method comprising the steps of:

identifying that a revision has been made to the program;

identifying whether the program, as revised, satisfies a preselected criterion;

if the program, as revised, satisfies the preselected criterion, automatically selecting a version designator according to a preselected scheme; and

automatically associating the selected version indicator with the program code.

23. The method according to claim 22, wherein the manufacturing system comprises an electronics assembly system.

24. A computer-implemented method for managing revisions to a program

5   used in the control of a manufacturing system supervised by at least one operator, wherein the manufacturing system is in communication over a network with a server coupled to a database containing the program, the manufacturing system and the server also being in communication over the network with at least one client device, the at least one client device

10   permitting communication with the server by a person authorized to do so in order to access the program, the program also being accessible via the server by the at least one operator through an interface associated with the manufacturing system, the method comprising the steps of:

15   detecting the occurrence of a revision to the program;

determining whether the revision to the program was made by a particular one of the at least one authorized person; and

20   if the revision was not made by a particular one of the at least one authorized person, sending a message over the network from the server to a client device to notify the particular person that the revision was made.

25. The method according to claim 24, wherein the at least one authorized person is a process engineer.

26. The method according to claim 24, wherein the manufacturing system

5   comprises an electronics assembly system.

27. In a computer-operated system for programming a manufacturing system having a plurality of manufacturing lines, wherein a version of a program is downloaded to the manufacturing system and the program is

10   associated with a version designator, and wherein the program relates to an article of manufacture, the system configured to represent graphically the article of manufacture based on information in the program, a method for managing revisions to the program, the method comprising the steps of:

15   receiving a request to compare a first version of the program associated with a first version designator with a second version of the program associated with a second version designator, the first and second version designators assigned upon release of the respective versions for use on the plurality of manufacturing lines;

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retrieving the program versions associated with the first and second version designators;

comparing the program versions to identify a set of differences;

representing the article graphically;

including in the graphical representation of the article a representation of the

5   set of differences, the representation of the set of differences having a visual

characteristic that contrasts with the representation of the article.

28. The method according to claim 27, wherein the manufacturing system

comprises an electronics assembly system.

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